



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,324	01/20/2006	Hiroko Ueda	60004-111US1	2203
69713 7590 06/10/2011 OCCHIUTI ROHLICEK & TSAO, LLP 10 FAWCETT STREET CAMBRIDGE, MA 02138				
EXAMINER				
LACLAIR, DARCY D				
ART UNIT		PAPER NUMBER		
1763				
NOTIFICATION DATE		DELIVERY MODE		
06/10/2011		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

INFO@ORTPATENT.COM

Office Action Summary**Application No.**

10/565,324

Applicant(s)

UEDA ET AL.

Examiner

DARCY D. LACLAIR

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-14, 22-26 and 29-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1-4, 6-14, 22-26 and 29-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. All outstanding rejections, except for those maintained below are withdrawn in light of the amendment filed on **3/31/2011**.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

The new grounds of rejection set forth below are necessitated by applicant's amendment filed on **3/31/2011**. In particular, **Claims 6-7, 23, 29-34** have been amended to change the claim dependency, and **Claims 24, 26, and 38** have been amended to remove the particle diameter limitation. These limitations were not present in the claims at the time of the preceding Office Action. Thus, the following action is properly made **FINAL**.

Specification

2. The amendment filed **3/31/2011** is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: Applicant has changed the mass ratio of zinc and silicon used in the paragraph beginning at page 64, line 7 (85/15) with another ratio (90/10), and applicant has changed the mass ratio of zinc and aluminum used in the paragraph beginning at page 68, line 29 (90/10) with another ratio (85/15). This changes not only the ratio used, but alters the ratio associated with both zinc and silicon, as well as zinc and aluminum.

Applicant is required to cancel the new matter in the reply to this Office Action.

3. The disclosure is objected to because of the following informalities:

Example 9 describes mass ratio of zinc and aluminum 90/10 but refers to Referential Example 1 to show how the oxide hydrate is obtained. Referential Example 1 is the preparation of a resin, and therefore is not consistent with the description in the text of Example 9 with respect to what the specification teaches. It is considered possible that "Example 1" is a typographical error and should have been one of Examples 10, 11, or 12, all of which start with a 1 and refer to the preparation of a complex oxide hydrate, however Referential Examples 10-12 describe the preparation of complex oxide hydrates 85/18 Zinc/Silicon (RE10), 85/15 Zinc/Aluminum (RE11), and 91/9 Titanium/Silicon (RE12). Similarly, Example 8 describes a mass ratio of zinc and silicon of 90/10 but refers to Referential Example 10, which describes 85/15. In both cases, it is not clear what the example actually uses, because the ratio given (85/15) and the preparation procedure (90/10) are directed to different products. Although applicant has attempted to alter the ratios to correct this by introducing new matter to the specification, this method of correction is not an appropriate course of action.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. **Claims 1-4, 6-14, 22-26, and 29-36** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s)

contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Specifically, with respect to these claims applicant has directed attention to Example 9 as support for the amendment describing the oxide hydrate as containing zinc and silicon or zinc and aluminum, wherein the parts by weight and particle size of the oxide hydrate particle are described. Example 9 describes mass ratio of zinc and aluminum 90/10 but refers to Referential Example 1 to show how the oxide hydrate is obtained. Referential Example 1 is the preparation of a resin, and therefore is not consistent with the description in the text of Example 9 with respect to what the specification teaches. Examples which provide a preparation of a complex oxide hydrate describe the preparation of complex oxide hydrates 85/18 Zinc/Silicon (RE10), 85/15 Zinc/Aluminum (RE11), and 91/9 Titanium/Silicon (RE12). Similarly, Example 8 describes a mass ratio of zinc and silicon of 90/10 but refers to Referential Example 10, which describes 85/15. In both cases, it is not clear what the example actually uses, because the ratio given (85/15) and the preparation procedure(90/10) are directed to different products. Thus support for the combination of zinc and silicon and zinc and aluminum with a range of 82/18 - 99/1 is not supported, and specifically, support for 90/10 appears to be absent or convoluted by the confusion in the specification. Although applicant amended the specification in an attempt to clear up this confusion, the amendments to the specification introduce new matter, and are therefore not an acceptable solution.

Double Patenting

5. **Claims 1, 6-10, 22-26, 29-39** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-4, 6, 21-22, 24, 26, 27-29** of copending **Application No. 10/555,707** (Published as **US 2006/0276598**).

The rejection is adequately set forth in **paragraph 2** of the office action mailed **1/6/2011**, and is incorporated here by reference.

6. **Claims 1, 4, 6-10, 12, 22-26 and 29-39** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-6, 10, 12, 14, 18-25** of copending **Application No. 10/570,965** (Published as **US 2007/0066167**) in view of **Kurihara et al. (US 5,110,586)**.

The rejection is adequately set forth in **paragraph 3** of the office action mailed **1/6/2011**, and is incorporated here by reference.

7. **Claims 1, 4, 6-10, 22-26 and 29-39** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1-13** of **US Patent No. 7,510,988**.

The rejection is adequately set forth in **paragraph 4** of the office action mailed **1/6/2011**, and is incorporated here by reference.

8. **Claims 1, 4, 6-10, 22-26, and 29-39** are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1, 6, 11-15**, of **U.S. Patent No. 7,473,470**.

The rejection is adequately set forth in **paragraph 5** of the office action mailed **1/6/2011**, and is incorporated here by reference.

Claim Rejections - 35 USC § 103

9. **Claims 1-4, 6-14, 22-26 and 29-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takai et al. (US 6,284,362)** in view of **Kurihara et al. (US 5,110,586)**.

The rejection is adequately set forth in **paragraph 8** of the office action mailed **1/6/2011**, and is incorporated here by reference.

With regard to Claim 4, Takai teaches that the absorbent composition has a particle size from 200 μ m to 700 μ m and preferably 250 μ m to 600 μ m, and the particle size distribution greater than 100 μ m and less than 1000 μ m is 90%, or preferably 95% by mass or more. (see col 16 line 23-26) This presents a particle size distribution that is substantially similar to that required by applicant. Specifically, if the composition has a preferable particle size above 250 μ m but less than 600 μ m, then a typical Gaussian distribution would have the bulk of the particles exceeding 300 μ m in diameter. Takai also teaches that particles larger than 700 μ m will have a lower absorption speed, (see col 16 line 27-30) which would motivate one of ordinary skill in the art to bring the particle size below that size. Furthermore, the dictate that those particles outside the

range 100 μ m-1000 μ m are less than 95% by mass or more, in combination with the instruction that particles of 200 μ m or more are easier to handle (see col 16 line 30-37), would motivate one of ordinary skill in the art to avoid particles less than 150 μ m. One of ordinary skill in the art, given the instructions of Takai with regard to particle size, would arrive at a particle size consistent with that claimed by applicant.

With regard to amended Claims 6-7, 23 and 29-33, it is noted that Takai, the primary reference, teaches all of the limitations of Claim 4, from which these claims have been amended to ultimately depend. Therefore attention is directed to the discussion of these claims set forth in the office action mailed 1/6/2011.

Response to Arguments

10. Applicant's arguments filed **3/31/2011** have been fully considered. Specifically, applicant argues

(A) Applicants have amended the specification to correct a typographical error, replacing "Referential Example 1" in Example 9, with Referential Example 11" and thus the mass ratio of zinc to aluminum described in Example 9 is the same as that described in Referential example 9, specifically 85/15. Applicants have also amended the ratio "90/10" in Example 9 to read "85/15." Further, applicants have replaced 85/15 in Referential Example 10 with "90/10." Upon entry of these changes, Example 9 is supported by Referential Example 11, and Referential Example 10 is supported by the mass ratio recited in Example 8. It is believed by applicant that these changes

overcome the objections to the specifications, and further the first paragraph rejections for new matter.

(B) Applicants have amended the claims by removing the particle diameter from Claims 34, 36, and 38.

(C) Applicants discuss claim 1 first, with respect to the obviousness objection over Takai in view of Kurihara. Applicants traverse the combination of Takai and Kurihara on the grounds that it would not have been obvious to replace the deodorant and microfiller of the Takai composition with the particle of Kurihara. Specifically Takai teaches that a deodorant can optionally be included in the absorbent composition containing an absorbent resin and a microfiller. Unlike the deodorant, the microfiller is essential, and provides an important role in improving the surface area, absorption speed, and initial amount of absorption under pressure. Given the importance of the microfiller of Takai, a skilled person would not have been motivated to replace it with an optional deodorant for fear of compromising the performance of the resultant microfiller. Thus Takai does not teach or suggest replacing the essential microfiller with a deodorant or replacing both the essential microfiller and the deodorant with another deodorant. Kurihara teaches the use of this zinc oxide and aluminum and/or silicon oxide as a deodorant, and not as a microfiller. Thus Kurihara does not teach any motive to replace the microfiller of Takai. Thus the claim is not rendered obvious.

(D) Although applicants do not concede a *prima facie* case of obviousness has been established, a *prima facie* case can be rebutted by the criticality of the mass ratio of zinc to silicon or aluminum required by claim 1. As shown in the specification, a

complex oxide hydrate having a mass ratio within the range of 82/19-99/1 readily reduces the hygroscopic blocking ratio of an absorbent resin. (See Table 4 Examples 1, 8, 9 and 10 vs. Comparative Example 4) A complex oxide hydrate having a ratio of zinc to silicon of 40/60 did not reduce the hygroscopic blocking ratio of an absorbent resin at all. (Table 4, Comparative Examples 5 and 6) Applicant notes that Takai teaches no mass ratio range, and Kurihara teaches only the range 11/89 to 98/2 which is much broader than the critical range, and includes the value 40/60 which is shown to have a different hygroscopic blocking ratio than the claimed range. Additionally, the mass ratio range is also critical for preventing exfoliation, as evidenced by improved abilities for removing odorants.

11. **With respect to argument (A)**, applicant's arguments have been considered but are **not persuasive**. The amendments to the specification appear to switch out the values 85/15 and 90/10 in combination with different complex oxide hydrates, with respect to two examples. These changes do not appear to be internally supported by the specification as filed, and in order to correct various problems, values and their relationship to types of oxide hydrates had to be adjusted in ways which were not originally presented. The change appears to attempt to establish internal consistency by changing multiple several items to be consistent with one another, and then declaring internal consistency. The changes made must be supported by the originally filed materials, and examples can not simply be rewritten for convenience and to provide support for claim amendments or to correct typographical errors which are

sufficiently significant that the meaning is not clear. These inconsistencies go beyond correcting an obvious misspelling or referencing a formula which the specification makes clear in other places is the correctly paired formula. In this case, in order to make the corrections, mass ratio of zinc to silicon or aluminum was changed to complexes not taught in the specification, and thus applicant has not corrected the matters objected to in the specification or the 112 issues surrounding particle mass ratios.

With respect to argument (B), the rejection under 112 first paragraph of Claims 34, 36, and 38 has been withdrawn *in light of applicant's amendment*. Support for the amendment in the claims previous to the amendment specifying the particle size is acknowledged.

With respect to argument (C), applicant's arguments have been considered but are *not persuasive*. Takai teaches an absorbent composition having a microfiller and a hydrogel having a water absorptive resin, (see abstract) prepared by mixing a microfiller with a water absorptive resin in a hydrogel. (see col 3 line 45-50) The microfiller is be an inorganic filler, or one or a mixture of at least two selected from a group including silicon and aluminum oxides. (See col 4 line 40-45) The micro-filler is present in 0.005 to 10 parts per 100 parts of resin (see col 4 line 19) and has a particle size of 0.001 to 200 microns. (See col 4 line 39) Furthermore, Takai teaches that deodorants are beneficially added. (See col 15 line 10-13) Kurihara teaches a deodorizer comprising zinc oxide and at least one of aluminum oxide and silicon oxide. (See abstract) The deodorizer is suitable for incorporation in conventional plastics as well as cosmetics,

sanitary products, and disposable diapers. (See col 3 line 30-40) Kurihara's particle is described as a fine powder (see col 2 line 57-59), which is commonly regarded as having a size of in the range of 50 to 150 microns. Thus the particle of Kurihara meets both the compositional and the size preferences of Takai. Given that Takai desires just such a particle as the microfiller, and the particle of Kurihara is both appropriate as the microfiller, and has the additional benefit of having a deodorizing property, it would be obvious to one of ordinary skill in the art to use the deodorant particle of Kurihara as the microfiller and simultaneously as a deodorant in the composition of Takai in order to take advantage of the deodorizing abilities of the particle. Furthermore, Applicant states on page 11 of the Remarks submitted 8/9/2010, that one of ordinary skill in the art would recognize that absorbent resins containing a Zn-Si/Al oxide would have an enhanced odor absorbing property. Thus one of ordinary skill in the art would recognize the dual benefit of Kurihara's microparticle.

With respect to argument (D), applicant's arguments have been considered but are **not persuasive**. First, Kurihara specifically exemplifies Zn:Al₂O₃ ratios of 80:20 and 84:14, and the greatest reduction in H₂S as well as ammonia and other odorants is obtained at the high Zn ratio of 84:14 (Example 3, 6:1). (See Table 1) Thus although applicant has indicated that the criticality of the mass ratio of zinc to silicon or aluminum is unexpected, based on the teachings of Kurihara, it would be expected that this particular ratio, which falls within the claimed range, would provide optimum performance because this provides the greatest reduction in odor. Therefore one of ordinary skill in the art would be motivated to select a particle having a ratio of 84:14,

which falls within applicant's allegedly critical range, or to optimize closely within that range. Although Kurihara focuses on this range for its deodorizing properties, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darcy D. LaClair whose telephone number is (571)270-5462. The examiner can normally be reached on Monday-Friday 8:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on 571-272-1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MILTON I CANO/
Supervisory Patent Examiner, Art Unit 1763

Darcy D. LaClair
Examiner
Art Unit 1763

/DDL/